

Enhancing Listening Comprehension among Iranian EFL Learners through Schema Theory

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Abstract

This study aimed to determine whether using cultural information as a pre-listening activity significantly affects EFL learners' listening comprehension. Consequently, 180 students majoring in English at Allame Tabatabaie and Azad University were randomly selected based on their scores on the Michigan proficiency test (1995). Then, the subjects were divided into three groups: elementary, intermediate, and advanced. Subsequently, each was divided into equal subgroups, ultimately assigned randomly to the control and experimental groups. From the very beginning, both the control group and the experimental group took a test of listening comprehension suited to each of the three aforementioned different levels, except for the fact that to each passage in the second set, the Cultural information was added, functioning as the treatment of the experiment. The data were analyzed through the t-test, which compared the means of the control and experimental groups of various levels of language proficiencies. The results show that the use of cultural information did not affect the listening comprehension of elementary students, contrary to the intermediate and advanced students. By considering the anchoring role of cultural understanding in comprehension, the results can have implications for syllabus designers, material writers, test developers, and language teachers.

Keywords: “Cultural Information”, “Listening Comprehension”, “Proficiency Levels”.

Introduction

In everyday life, Listening is the most frequently used language skill, but unfortunately, it is among the least emphasized skills in language classes (Celce-Murcia, 1997). Undoubtedly for a successful communication to take place, speaking is not enough, for what is said is also to be comprehended by the listeners accurately. As early as 1781, Immanuel Kant wrote that new concepts are meaningful only when they are linked to what people already know.

It is believed that in listening comprehension two major processes are involved. One is bottom-up processing involving decoding the received messages and mainly making use of the linguistic signals. Seemingly, in bottom-up processing, listeners rely on linguistic competence or the ability to recognize meaningful chunks or constituents (Richards, 1990). The other process is called top-down processing which involves using prior knowledge and information as the basis for interpreting the message. In this process, reliance is on our knowledge of the situation which is called the script or schema, consequently bringing up the psycholinguistic aspects of listening comprehension into the picture. Schema theory describes how Knowledge is represented and how that representation facilitates the use of knowledge in particular ways. Accordingly, all knowledge contained is stored in units or slots called schemata which contain not only the knowledge itself but also the necessary information about how this knowledge is to be utilized (Rumelhart, 1983). Schema theory provides an original theory of meaning upon which later levels of meaning can be based or judged (Markham and Latham, 1987).

According to Anderson and Ortony (1975), as a crucial concept instantiation refers to the process of finding the most reasonable interpretation of newly received information to integrate that information with prior existing Knowledge. The schema is said to be instantiated when the new information has successfully merged with existing information and has found its way into appropriate slots (Markham & Latham, 1987).

The basic principle of schema-based learning theory is that individuals comprehend material by using prior knowledge to produce meaning (Rumelhart, 1983). Consequently, comprehension hinges upon the interaction between the structure and content of the material and what the individual brings to the material. The individual can only arrive at this anticipated meaning through the interaction of the material and the individual's previously acquired repertoire of background experience.

Although research evidence concerning the importance of schema theory for first and second-language reading comprehension is abundant (Steffensen et al., 1979; Hudson, 1982; Johnson 1981, 1982; Carrel, 1983; Lipson, 1983), correspondingly empirical support concerning the role of schema theory in listening comprehension is lacking in the context of Iran (Kintsch and Greene, 1978). It seems logical that schema theory would be of great importance for capturing meaning from a stream of oral language that rapidly flows past the ear of the listener, but the evidence supporting this assumption is not available.

Many studies have been conducted to discover various characteristics of Schemata and their roles in human comprehension and listening. It has been identified that without the necessary schemata, the act of comprehension is nearly impossible. In this regard, Bransford et al. (1979) embrace the fact that language comprehension depends on the activation of relevant knowledge as a basis for comprehension. The present study was along the same line with the theories and findings to find out the effect of Cultural information which seemed quite essential to foreign listeners. Based on what has been discussed so far on the importance of schemata in more recent definitions of listening comprehension, this study was conducted to investigate the effect of Cultural information as a pre-listening activity on listening comprehension of EFL learners. The study specifically aimed to signify the effect of the above treatment across the levels of language proficiency. The following questions were subsequently raised to form a clear base for the study and appointment of departure in search of answers.

There has recently been a tendency towards the integration of cultural materials in classrooms both as authentic content and a potential source of communicative texts and interesting topics contributing to cultural understanding and schema formation. The present study has more to offer to the field of language teaching by introducing a new technique and examining its effects across various levels of language proficiency. Hence, the following questions were raised:

1. Does cultural information have any effect on EFL students listening comprehension?
2. Are these effects the same at the elementary, intermediate, and advanced levels?

Literature Review

Listening is a commonly used but often overlooked skill in our everyday communication (Hu, 2012). Studies show that we listen more than we speak, read, or write - twice as much as speaking, four times as much as reading, and five times as much as writing (Celce-Murcia, 1995). Unfortunately, many conversation classes neglect listening practice, focusing only on speaking. Peterson (1991) notes that spoken language, received through listening, is the easiest type of language input to process. This suggests that separating listening from speaking may not be beneficial.

There are two types of listening: interactive and non-interactive (Bowen et al., 1985). Interactive listening involves two-way communication where the listener and speaker take turns in their roles. Non-interactive listening, on the other hand, is a one-way communication, such as listening to the radio, watching TV, or attending a lecture (Morely, 1991).

It was once believed that learners could develop both listening skills simply through exposure to a teacher's speech in the classroom. However, this belief is now considered outdated as teachers often use clear, articulated sentences, which differ from natural speech (Brown & Yule, 1983). Therefore, it's suggested that teachers should treat listening as a skill to be actively taught, not passively acquired. As Morley (1972) emphasizes, listening comprehension is not only a crucial step toward oral proficiency but also an important skill in its own right.

Listening, like reading, has often been mistakenly labeled as a passive skill (Celce Murcia, 1991). Anderson and Lunch (1988) challenge this notion, arguing that the listener-as-tape-recorder model oversimplifies the complex process of listening. They contend that this model fails to consider the interpretive work listeners do based on their listening objectives, expectations, and prior knowledge.

There are three modes of listening. The first is the reciprocal speech chain, where the roles of speaker and listener are exchanged (Denes & Pinson, 1963). The second mode involves one-way communication, where the listener receives input from various sources such as overheard conversations, public announcements, and media like radio, television, and films. The third mode, self-dialog communication, involves internal dialogues where we may not consciously recognize our roles as both speaker and listener (Morley, 1991).

Contrary to traditional beliefs, listening is not a passive activity in any of these modes. All three modes require active participation and engagement from the listener. This view regarded the listener, as a vessel that could be filled with the stream of words without doing anything.

This perspective views the listener as a receptacle that can be filled with a stream of words without any particular processing. This assumption, undoubtedly, oversimplifies listening comprehension. Many individuals are unaware of the complex tasks they perform while listening to different types of speech in daily life. Consider a scenario where you are walking on a bustling street with a friend, engaged in a casual conversation. Despite the barrage of distracting noises from various sources, you manage to maintain the conversation (known as the cocktail party problem). Therefore, listening comprehension is not as straightforward as previously thought.

Recent theories propose that listening is a process where the listener uses their prior knowledge to reconstruct the speaker's message (Chastain, 1988). Similarly, Anderson and Lynch (1988) argue that listening involves creating a coherent interpretation of what we hear. This interpretation should align with our understanding of the speaker and the context. However, it is an interpretation because it is constructed based on the speaker's intended meaning.

The role of comprehension in second language (L2) learning has been examined by researchers who are interested in more than just listening skills (Anderson & Lynch, 1988). Krashen (1981) posits that comprehension is a central, if not the most important, component of the language learning process.

There are two modes of information processing available to humans, metaphorically referred to as top and bottom. The term "top" refers to our prior knowledge used in the analysis of received information, while "bottom" refers to the information already present in the incoming data, such as words and sentences (Richards et al., 1992). In bottom-up processing, listeners heavily rely on the incoming data to understand the message, analyzing it at successive levels until they arrive at the intended meaning. In top-down processing, listeners use their background knowledge to understand the message (Richards, 1990). It is now assumed that listening is an interactive process involving both top-down and bottom-up processes.

Peterson (1991) suggests that top-down and bottom-up processes interact, allowing for compensation when information is lacking at one level by checking against information at the other level. For instance, proficient listeners use their lexical and topical knowledge to interpret confusing sounds in the speech stream and assist in

word recognition. Conversely, they use their basic decoding skills to check the progress of the argument and determine whether the discourse is proceeding as they predicted.

Recent findings have led to a new model of listening comprehension (Celce-Murica, 1995) that accounts for not only the previously discussed sources of information but also the two modes of information processing.

Richards (1990) uses these two processes to construct a four-part grid that allows a listening activity to be classified according to the demands of the function for listening and the processes that are expected to be most prominently involved, namely Interactional and Transactional.

According to Brown and Yule (1983a), transactional language is message-oriented, focusing on content and accomplishing tasks in the real world. In contrast, interactional language is listener-oriented, focusing on the person rather than the information, with the sole objective of establishing and maintaining cordial social relationships. Richard (1990) notes that in many situations, both interactional and transactional purposes are involved, suggesting that effective classroom participation requires both.

Generally a model of listening comprehension, based on research conducted over the past few decades is presented (Clark & Clark, 1997; Anderson, 1985; Richards, 1985; Rost, 1990). These scholars have identified three primary steps in listening comprehension: identifying propositions, recognizing the speaker's intention, and constructing a mental model.

Propositions, or units of meaning, are identified by listeners when they hear a sentence (Clark & Clark, 1997). For instance, the sentence "The young, violent criminal robbed the man of his money" contains four distinct propositions. According to Richards (1983), listeners identify these propositions using syntactic knowledge, which helps break down the discourse into constituents, and world knowledge, which aids in understanding the propositions in the context of real-world events.

Once the propositional meanings are identified, they are stored in long-term memory, and the original form of the message is forgotten, suggesting that our long-term memory is responsible for meaning, not form (Richards, 1983).

The next step involves recognizing the speaker's intended meaning, which often depends on the context in which the utterance was made (Brown & Yule, 1983). After interpreting the speaker's intended meaning, listeners must then use this interpretation for further purposes, such as registering new information or answering questions (Clark & Clark, 1997).

Finally, listeners construct a mental model by relating the mental representation of the text's meaning to their existing knowledge (O'Malley et al., 1988). This process, viewed as a constructive process by Anderson and Lynch (1988), involves activating our background knowledge or knowledge of the world.

Schema Theory Model

The quote "Every act of comprehension involves one knowledge of the world as well" (Anderson, Reynolds, Schallert, & Goetz, 1977, p. 869) underscores the importance of background knowledge in understanding a second or foreign language, especially in listening comprehension in EFL/ESL contexts. This idea, which aligns with Kant's 1781 assertion that new information, concepts, and ideas gain meaning only when related to existing knowledge (Kant, 1781/1963), is central to Schema Theory.

Schema Theory, backed by empirical research, highlights the role of background knowledge in a psycholinguistic model of listening and reading. Coady (1979, p. 7) notes that background knowledge is a crucial variable, as students with a Western background tend to learn English faster than those without such a background. Coady also suggests that background knowledge might compensate for certain syntactic deficiencies.

Schema Theory posits that a text, whether spoken or written, does not carry meaning on its own. Instead, it provides directions for listeners or readers to retrieve or construct meaning from their previously acquired knowledge, known as "schemata" (Bartlett, 1932; Adams & Collins, 1979; Rumelhart, 1980). Comprehending a text is an interactive process between the listener/reader's background knowledge and the text (Anderson et al., 1977, p. 369).

This theory guides the interpretation process, resulting in two basic modes of information processing: bottom-up and top-down processing. Bottom-up processing, or "data-driven" processing, is evoked by incoming data and enters the system through the best-fitting, bottom-level schemata. Top-down processing, or "conceptually-driven" processing, makes general predictions based on higher-level, general schemata. Both processes should occur simultaneously at all levels (Rumelhart, 1980), ensuring sensitivity to novel information and helping resolve ambiguities or select between alternative possible interpretations of the incoming data.

Schemata are not just cognitive constructs to do with the mental organization of concepts, but also social-psychological constructs which allow us to attach particular values and attitudes to knowledge. They are shaped by the sorts of social experiences that readers bring to texts (Wallace, 1992). An often-quoted study by Stephenson, Joag-dev, and Anderson (1970) revealed that people from different cultures comprehend and interpret the same text differently from what it is, very similar to their system of values. Naturally, part of our schematic knowledge is knowledge not just of what the target culture is and how the people behave in particular ways in particular situations, but related to more general knowledge of ways of behaving in in the target culture. It is not just a

question of interpreting the description of facts, phenomena, or behavior but of being aware of a range of different attitudes to them.

Steffensen and Joag-Dev (1984) highlight that while foreign language educators and theorists understand that students from diverse cultures bring different knowledge systems to the comprehension process, teaching methods and materials have not always reflected this understanding. McGroarty and Galvan (1985) also emphasize that recognizing the close relationship between language and culture has been a significant development in language instruction. However, they note that the role of culture in second language learning and teaching is often overlooked by researchers and curriculum planners.

Several factors contribute to this oversight. Firstly, it's simpler to identify and teach specific features of a language's phonological and grammatical systems than it is to teach cultural features. Secondly, the cultural norms and values associated with the English-speaking world, which accompany the technical data and equipment, are often seen as foreign and unacceptable aspects of the target culture. Alptekin (1990) points out that countries receiving a predominantly one-way flow of information from Anglo-American centers risk having their own culture completely submerged, leading to restrictions in educational and cultural domains to protect their cultural identity. In developing countries, there's a sentiment that English instruction that hasn't been adapted to fit their country's needs poses a threat to national identity. As a result, Alptekin (1990) notes an increase in the production of culturally appropriate local teaching materials for learners in these countries.

Despite this, Barnitz (1985) observes that recent studies have shown how prior knowledge, based on cross-cultural experiences, influences reading. However, few studies have explored its role in listening comprehension. Rivers (1981) advocates for maintaining a strong connection between culture and language for students to fully understand the meaning of language. She suggests that cultural-specific values can significantly impact comprehension if the speaker's values differ from those of the listener.

Therefore, language and culture are intertwined and should be taught together. Based on the theory of linguistic relativity, Alptekin (1990) argues that genuine acquisition of the target language cannot occur without the learner internalizing the patterns and values of the target language speaker. This new linguistic and cultural competence allows learners to develop new perceptions of reality and behave differently in light of these perceptions. As Brown (1991) sees it, teaching English can be a process of developing self-awareness of the world outside the classroom and increasing cross-cultural awareness and sensitivity.

Method

Participants

The study's population consisted of 180 B.A. and M.A. students specializing in English from Allame Tabatabaie and Azad universities. All of them were volunteers who were provided with an equal opportunity to participate in the exams.

The participants were categorized into three proficiency levels - elementary, intermediate, and advanced, based on their scores on the "Michigan" test. Participants with scores within the range of ± 1 standard deviation from the average were classified as intermediate. Those who scored above +1 standard deviation were deemed advanced, while those who scored below -1 standard deviation were considered elementary.

$$ZS_x + X = X_i$$

$$Z = \frac{X_i - X}{S_x}$$

$$X - S_x < X_i < X + S_x$$

In the end, the participants from each language proficiency level were equally divided into two groups. These groups were randomly designated as either the experimental group or the control group. The study did not control for variables such as age and sex.

Materials and Instruments

This study administered two types of tests to the participants. The first was the "Michigan Proficiency Test", and the second was a series of listening comprehension tests.

The Michigan Proficiency Test was used to categorize the participants into three proficiency levels.

The listening comprehension test, on the other hand, was tailored to the language proficiency level of the participants who were expected to take the test. This approach was taken to eliminate any influence from the variable of linguistic knowledge. The listening comprehension tests included six passages, each followed by several factual and inferential questions, totaling twenty-two comprehension questions.

It's important to note that all students who took the listening comprehension test were given a suitable piece of "cultural information". This served as the treatment of the study. All the listening materials were culture-focused and were chosen from various standard tests.

Procedure

The initial step in carrying out the study involved selecting the suitable tools. The Michigan proficiency test was utilized to assess the overall language proficiency of the participants. Listening comprehension tests were also required to be given to three distinct levels of language proficiency. Measures were implemented to adequately match the difficulty level of the listening materials with the language proficiency level of the test takers. At first, complexity was evaluated in terms of grammatical structures, vocabulary, and sentence complexity. Subsequently, factors such as reduced forms, delivery rate, pausing, and speed were also taken into account.

After the listening comprehension materials were chosen, the "Michigan Proficiency Test (1995)" was administered to a group of 180 B.A. and M.A. students majoring in English at the university. Their performance on the "Michigan" test was used to categorize them into three language proficiency groups: elementary, intermediate, and advanced. Participants who scored less than one standard deviation below the average were classified as elementary. Those who scored within \pm one standard deviation from the average were considered intermediate. Lastly, participants whose scores were more than one standard deviation above the average were classified as advanced.

After being divided into three language proficiency groups and taking a two-week break, the participants were invited to participate in the second phase of the study. Half of the participants at each proficiency level were randomly allocated to the control groups and took the tests without any treatment. Conversely, the other half at each proficiency level were randomly assigned to the experimental groups and took the same listening comprehension tests, but with the addition of the treatment, i.e., "cultural information".

The "Michigan" test was given a time limit of 110 minutes, while the listening tests, which consisted of twenty-two comprehension questions, were allotted seventeen minutes.

Data Analysis Procedure

The data obtained from the listening comprehension tests across the three proficiency levels were analyzed. The scores of the subjects were recorded in specific test worksheets, and all necessary statistical calculations, such as mean, variance, and standard deviation, were computed. To ensure accuracy, all outlier scores were excluded from the calculations.

Given that there were two groups of subjects at each language proficiency level, namely the control and the experimental groups, the t-test was conducted. This test was performed three times to determine whether the "cultural information" had an impact on the listening comprehension of the three language proficiency levels. At each proficiency level, the mean scores of the experimental and control groups were compared to identify any significant differences. However, the t-test revealed that the T value was significant for two of the language proficiency levels.

Results

The results of the study indicate that the use of cultural information as a pre-listening activity had a considerable effect on the listening comprehension of intermediate and advanced EFL learners, excluding elementary students.

For the intermediate and advanced groups, the experimental groups who received the cultural information before the listening comprehension test performed significantly better than the control groups who did not receive the cultural information. This paper suggests that providing relevant cultural background knowledge promotes the top-down processing of the listening passages for these proficiency levels, allowing them to better understand and interpret the content.

Table 1-The results of the study for the intermediate level

Group	X	S	d.f	t-obs	t-critical
Control	7	4	14	4.41	2.145
Experimental	13.37	.83			

P < .05

Table 2- The results of the study for the advanced level

Group	X	S	d.f	t-obs	t-critical
Control	16.37	4.55	14	2.439	2.145
Experimental	20.65	17.14			

P< .05

However, the results showed no significant difference between the control and experimental groups at the elementary level. This paper indicated that for beginner-level learners, the provision of cultural information did not have a grand impact on their listening comprehension. It is possible that the linguistic demands of the listening passages were too challenging for the elementary students, and their limited language proficiency overshadowed the potential benefits of cultural knowledge.

Table 3-The results of the study for the elementary level

Group	X	S	d.f	t-obs	t-critical
Control	8.12	5.77	14	0.66	2.14
Experimental	11.31	11.42			

P< .05

Discussion

These findings support schema theory, which suggests comprehension as an interactive process between the input and the listener's prior knowledge, particularly for intermediate and advanced learners. The cultural information appeared to activate relevant schemata, enabling these learners to make stronger connections between the listening passages and their existing knowledge, which facilitated their ability to comprehend the content more efficiently. Based on the results, it was evident that "cultural information" affected listeners differently depending on their level of language proficiency.

The elementary students, however, were unable to fully utilize the provided cultural information to improve their comprehension of the listening materials. This is consistent with theoretical explanations in the literature. Beginners often focus on individual words and miss the overall meaning, leading to an overload in mental processing as they concentrate on linguistic elements (Chastain, 1988). They primarily attend to factual details rather than connecting them to the text's broader content, which was evident in this study, as they responded more frequently to factual questions than interpretative ones. Carrel (1983) suggests that non-native listeners at the elementary level are more linguistically bound and less capable of using background knowledge.

For intermediate and advanced learners, the provided cultural information resulted in notable improvements in comprehension when listening to cultural texts. This improvement could be attributed to these learners' ability to understand sentence-length utterances in contexts of basic personal background, social conventions, and culture. They demonstrated, in this study, the ability to use relevant background knowledge to activate schemata that aid in analyzing and interpreting the content.

Conclusion

In conclusion, this study's findings highlight the important role of cultural knowledge in enhancing the listening comprehension of EFL learners, especially at intermediate and advanced levels. By incorporating culturally relevant information as a pre-listening activity, language instructors can leverage schema theory to enhance students' ability to comprehend and interpret spoken discourse effectively. For beginner-level learners, however, the linguistic demands may need to be carefully adjusted, as their limited proficiency may inhibit the benefits of additional cultural knowledge.

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